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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Nobukazu Kurauchi

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EXAMINER

DANG, HUNG Q

ART UNIT

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2621

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,689	Applicant(s) KURAUCHI, NOBUKAZU	
	Examiner Hung Q. Dang	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-26 and 28-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-26 and 28-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 08/31/2009 have been considered but are moot in view of the new ground(s) of rejection.

Also, Examiner respectfully submits that the amended feature of "outputs a part of the first audio information having the lowered capacity and a different part of the first audio information not having the lowered capacity, such that a capacity-lowering ratio, at a boundary between the part of the first audio information having the lowered capacity and the different part of the first audio information not having the lowered capacity, gradually changes," is different and narrower than the limitation that was recited in original claim 27.

The amendment is therefore necessitated by new ground of rejections as described in details below.

Claim Objections

Claims 31-33 are objected to because of the following informalities:

Claim 31 recites, "... on the medium", which should be "... on the disk-shaped rotary recording medium". Appropriate correction is required.

Claims 32-33 are objected because they depend on claim 31 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20-22 and 28-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art of this application (hereinafter APA), Dark et al. (US Patent 6,205,097 – hereinafter Dark), and Staley (US 2002/0126860).

Regarding claim 20, APA discloses a conventional reproduction apparatus which reads and reproduces audio information and other information from a record medium where the audio information and the other of information are recorded (*Fig. 3; [0003]*), characterized in that: the reproduction apparatus includes, a reading section for reading, from the recording medium, the audio information and the other information recorded in a different position, on the recording medium, from a position of the audio information (*[0007]; [0008]; [0016]*), audio storing section for storing the audio information read out by the reading section (*"Audio Storage Section 904" and "Audio Storage Section 905" in Fig. 3; [0007]; [0008]*); an audio reproducing section for reproducing the audio information stored in the audio storing section (*[0007]; [0008]*), an other information storing section for storing the other information read by the reading section (*"Image Storage Section 910" and "Image Storage Section 913" in Fig. 3; [0009]; [0010]*), and an other information reproducing section for reproducing the other information stored in the other information storing section (*[0009]; [0010]*), wherein the audio information includes first audio information and second audio information, the second audio information being continuously reproduced after the first audio information (*[0007]; [0008]*); and the reproducing section outputs the first audio information and the second audio information

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for the period of time when the other information is reproduced by the other information reproducing section ([0007]; [0008]; [0009]; [0010]).

However, APA does not disclose a capacity-lowering section for lowering the capacity of the audio information read by the reading section, an audio storing section for storing the audio information whose capacity is lowered by the capacity-lowering section; and before the reproducing section outputs the first audio information and the second audio information, the capacity-lowering section lowers the capacity of the first audio information read by the reading section, so that the reading of the second audio information is completed before the reproduction of the first audio information is completed, and outputs a part of the first audio information having the lowered capacity and a different part of the first audio information not having the lowered capacity, such that a capacity-lowering ratio, at a boundary between the part of the first audio information having the lowered capacity and the different part of the first audio information not having the lowered capacity, gradually changes.

Dark discloses a capacity-lowering section for lowering the capacity of the audio information read by a reading section, an audio storing section for storing the audio information whose capacity is lowered by the capacity-lowering section (*column 1, lines 44-63; column 2, lines 58-64; column 3, line 56 – column 4, line 13*); and before the reproducing section outputs the first audio information and the second audio information, the capacity-lowering section lowers the capacity of the first audio information read by the reading section, so that the reading of the second audio information is completed before the reproduction of the first audio information is

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completed (*column 1, lines 44-63; column 2, lines 58-64; column 3, line 56 – column 4, line 13*), and changes the capacity-lowering ratio gradually such that the outputted audio signal is virtually imperceptible to the listener (*column 4, lines 9-11*).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Dark into the conventional reproduction apparatus admitted as prior art in order to allow for continuous audio play even if multiple skips occur (*Dark: column 1, lines 54-63*).

However, APA and Dark do not disclose outputting a part of the first audio information having the lowered capacity and a different part of the first audio information not having the lowered capacity, such that a capacity-lowering ratio, at a boundary between the part of the first audio information having the lowered capacity and the different part of the first audio information not having the lowered capacity, gradually changes.

Staley discloses outputting a part of the first audio information having the lowered capacity and a different part of the first audio information not having the lowered capacity ("*Audio out 16*" of the dynamic range compressor DRC 10 in Fig. 1), such that a capacity-lowering ratio, at a boundary between the part of the first audio information having the lowered capacity and the different part of the first audio information not having the lowered capacity, gradually changes ([0002]-[0003]; [0009]; Fig. 3; [0033] – wherein the boundary between the part having the lowered capacity and the different part not having the lowered capacity is at the cross-point of the vertical line and the horizontal line shown in Fig. 3, the part not having the lowered capacity corresponds to

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the part of the horizontal line on the left side of the cross-point while the part having the lowered capacity corresponds to the part of the horizontal line on the right side of the cross-point).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Staley into the reproduction apparatus disclosed by APA and Dark in order to further enhance the quality of the outputted signal by making the outputted audio signal less perceptible to the listener (*Staley: [0009]*).

Regarding claim 21, APA also discloses the reproduction apparatus characterized in that the other information is at least either of image information and video information (*[0009]; [0010]*).

Regarding claim 22, Dark also discloses the capacity-lowering section lowers a sampling frequency of the audio information read by the reading section (*column 1, lines 44-63; column 2, lines 58-64; column 3, line 56 – column 4, line 13*).

Regarding claim 28, Dark also discloses the capacity-lowering section changes the capacity-lowering ratio of the audio information read by the reading section, based on the storage capacity of the audio storing section (*column 3, line 56 – column 4, line 13*).

Regarding claim 29, APA also discloses the record medium where the audio information and the other information are recorded is a disk-shaped rotary record medium (*[0003]*).

Regarding claim 30, APA also discloses on the disk-shaped rotary recording medium, information is recorded using one of a magnetic phenomenon, an optical phenomenon, an electrical phenomenon and a combination of some of these phenomena ([0003]).

Regarding claim 31, APA also discloses the reading section includes a head which executes a scan on the disk-shaped rotary recording medium and reads information recorded on the medium using one of a magnetic phenomenon, an optical phenomenon, an electrical phenomenon and a combination of some of these phenomena ([0013]; [0014]; [0016]).

Regarding claim 32, Dark also discloses the capacity-lowering section changes the capacity-lowering ratio of the audio information read by the reading section, based on the movement speed of the head (*column 3, line 56 – column 4, line 13*).

Regarding claim 33, Dark also discloses the capacity-lowering section changes the capacity-lowering ratio of the audio information read by the reading section, based on the movement speed of the head and the storage capacity of the audio storing section (*column 3, line 56 – column 4, line 13*).

Regarding claim 34, APA and Dark also disclose the capacity-lowering section changes the capacity-lowering ratio of the audio information read by the reading section, based on the position on the recording medium where the audio information is recorded and the position on the recording medium where the other information is recorded (*Dark: column 3, line 56 – column 4, line 13; APA: [0013]-[0026]*).

Regarding claim 35, APA discloses a reproduction processing circuit which reproduces audio information and other information read from a recording medium where the audio information and the other information are recorded (*Fig. 3; [0003]*), the reproduction processing circuit comprising: an information deciding section for deciding whether the information read from the recording medium is the audio information or the other information (*[0005]*), a section for, if it is determined that the information read from the recording medium is the audio information, then storing the audio information in an audio storing section (*[0007; [0008]*); the audio information includes first audio information and second audio information, the second audio information being continuously reproduced after the first audio information (*[0007; [0008]*).

However, APA does not disclose a capacity-lowering section for, if it is determined that the information read from the record medium is the audio information, then lowering a capacity of the audio information and storing the audio information having a lowered capacity in an audio storing section, and an expanding section for expanding the audio information stored in the audio storing section; and the capacity-lowering section lowers the capacity of the first audio information expanded by the expanding section, so that the reading of the second audio information is completed before the reproduction of the first audio information is completed, and outputs a part of the first audio information having a lowered capacity and a different part of the first audio information not having the lowered capacity, such that a capacity-lowering ratio, at a boundary between the part of the first audio information having the lowered

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capacity and the different part of the first audio information not having the lowered capacity, gradually changes.

Dark discloses a capacity-lowering section for lowering the capacity of the audio information read by the reading section, an audio storing section for storing the audio information whose capacity is lowered by the capacity-lowering section (*column 1, lines 44-63; column 2, lines 58-64; column 3, line 56 – column 4, line 13*), and an expanding section for expanding the audio information stored in the audio storing section (*column 3, lines 4-11, 14-17*); and the capacity-lowering section lowers the capacity of the first audio information expanded by the expanding section, so that the reading of the second audio information is completed before the reproduction of the first audio information is completed (*column 1, lines 44-63; column 2, lines 58-64; column 3, line 56 – column 4, line 13*), and changes the capacity-lowering ratio gradually such that the outputted audio signal is virtually imperceptible to the listener (*column 4, lines 9-11*).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Dark into the conventional reproduction apparatus admitted as prior art in order to allow for continuous audio play even if multiple skips occur (*Dark: column 1, lines 54-63*).

However, APA and Dark do not disclose outputting a part of the first audio information having the lowered capacity and a different part of the first audio information not having the lowered capacity, such that a capacity-lowering ratio, at a boundary between the part of the first audio information having the lowered capacity and the

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different part of the first audio information not having the lowered capacity, gradually changes.

Staley discloses outputting a part of the first audio information having the lowered capacity and a different part of the first audio information not having the lowered capacity (“Audio out 16” of the dynamic range compressor DRC 10 in Fig. 1), such that a capacity-lowering ratio, at a boundary between the part of the first audio information having the lowered capacity and the different part of the first audio information not having the lowered capacity, gradually changes ([0002]-[0003]; [0009]; Fig. 3; [0033] – wherein the boundary between the part having the lowered capacity and the different part not having the lowered capacity is at the cross-point of the vertical line and the horizontal line shown in Fig. 3, the part not having the lowered capacity corresponds to the part of the horizontal line on the left side of the cross-point while the part having the lowered capacity corresponds to the part of the horizontal line on the right side of the cross-point).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Staley into the reproduction apparatus disclosed by APA and Dark in order to further enhance the quality of the outputted signal by making the outputted audio signal less perceptible to the listener (Staley: [0009]).

Claim 36 is rejected for the same reason as discussed in claim 20 above.

Claim 37 is rejected for the same reason as discussed in claim 20 above.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over APA, Dark, and Staley as applied to claims 20-22 and 28-37 above, and further in view of Ohga et al. (US Patent 5,345,433 – hereinafter Ohga).

Regarding claim 23, see the discussion of claim 20 above. However, the APA, Dark, and Staley do not disclose the capacity-lowering section reduces the quantization bit number of the audio information read by the reading section.

Ohga discloses the capacity-lowering section reduces a quantization bit number of the audio information (*column 2, line 62 – column 3, line 5*).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Ohga into the conventional reproduction apparatus disclosed by APA, Dark, and Staley to further enhance the amount of data to be stored.

Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over APA, Dark, and Staley as applied to claims 20-22 and 28-37 above, and further in view of Tsuji (US Patent 6,324,188).

Regarding claim 24, see the teachings of APA, Dark, and Staley as discussed in claim 20 above. However, the APA, Dark, and Staley do not disclose the capacity-lowering section detects at least one of a silent interval, an interlude interval, a prelude interval and a voiceless interval of the audio information read by the reading section, and lowers the capacity of only the part which corresponds to at least the one of the silent interval, the interlude interval, the prelude interval and the voiceless interval.

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Tsuji discloses a capacity-lowering section detects at least one of a silent interval, an interlude interval, a prelude interval, and a voiceless interval of the audio information, and lowers the capacity of only the part which corresponds to at least the one of the silent interval, the interlude interval, the prelude interval and the voiceless interval (*column 3, lines 7-14*).

One of ordinary skill in the art at the time the invention was made would have been motivated to incorporate the teachings of Tsuji into the reproduction apparatus disclosed by APA, Dark, and Staley to reduce the amount of audio data to be processed without significantly degrading the quality of the signal.

Regarding claim 25, Tsuji also discloses the capacity-lowering section changes the capacity-lowering ratio in accordance with a sound volume of the audio information (*column 3, lines 7-14*).

Regarding claim 26, Tsuji also discloses the capacity-lowering section changes the capacity-lowering ratio in accordance with at least either of a change in the sound pitch or a change in the sound loudness of the audio information (*column 3, lines 7-14*).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Q. Dang whose telephone number is (571)270-1116. The examiner can normally be reached on IFT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THAI Q. TRAN can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hung Q Dang/
Examiner, Art Unit 2621

/Thai Tran/
Supervisory Patent Examiner, Art Unit 2621